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N° XIII.

*Observations on the Numb Fish, or Torporific Eel, by*  
HENRY COLLINS FLAGG, *South-Carolina.*

Read March  
7th, 1783.

I DO myself the pleasure, though late I confess, to comply with my promise of communicating some observations on the Numb Fish, or *Torporific Eel*, which I think a more proper name. These observations are contained in two letters I had the honor to write to the Rev. Dr. Stiles, a member of your philosophical society, from Rio Essequibo. Please to accept the following extracts.

The apparent difference between the torporific eel and that usually caught in your harbour is, the former is flatter on the back and head, the upper part of which is perforated with several holes\*, and has on each side, behind, a small fin which some say are elevated or depressed as the fish is pleased or not†; the body I think is larger in proportion to the length, and it has a broad fin connected to the belly and continued to the tail. I have seen this fish four feet long. The sensation occasioned by touching it appeared to me exactly similar to an electric shock. I have as yet been able to procure only one of these eels, and that was injured by laying too long dry before it came to me. The following are the remarks I made the little time it lived. I received the fish from a negro in a wicker basket, and laying it on the ground felt a considerable shock, as I did too when I turned the fish out of the basket into a tub  
of

\* These holes do not penetrate to the mouth, nor could I discover the use of them. But I was not sufficiently exact in my dissection of the head, or I think I might have found the termination of these ducts.

† This is true.

of water. The shock is greater if the fish is enraged; but whether repeated touches will exhaust this strange power, as frequently repeated bites do the viperine and some other poisons for a time, I believe no experiment has yet determined\*. If a person hold his finger in the water several inches distant from the fish and another touch it, a shock equally severe is felt by him who does not touch it. The same thing happens if the fish exerts itself without being touched. If a number of persons join hands, and one touch the eel, they are all equally shocked, unless there should happen to be one of the number incapable of being affected by the eel, which is the case of a very worthy lady of my acquaintance, who can handle this fish at will. I am informed some Indians and negroes can do the same; whether by the assistance of any means to counteract the power of the eel, I know not; but am persuaded it is something in the constitution of the lady†. The eel I had obtained got out of the tub, and it was with some difficulty I returned it, for the repeated shocks I received through a piece of deal board eighteen inches long, with which I attempted to lift it, made my arms ache very much, and for a considerable time. I think the numbness occasioned by touching this eel continues longer than that from an electric shock of the same degree of force, and I have been assured by a person of good sense and veracity, that a negro fellow formerly being bantered by his companions for his fear of this eel, determined to give a proof of his resolution, and attempted to grasp it with both hands. The unhappy consequence was, a confirmed paralysis of both arms. I hear this fellow is still living in the island of St. Christopher's; if so, I can obtain more satisfaction, for I have my doubts of the negro's honesty‡. But very certain

\* I am since convinced they do.

† This lady, when I became acquainted with her, was far gone in an hectic fever. And I did not think to enquire if she could treat the fish with so much familiarity while in a perfect state of health.

‡ This account was afterwards confirmed to me, with the further information, that after several years the negro recovered the use of his arms by slow degrees, and I think without any assistance from medicine.

tain it is, that many persons have been knocked down by the severity of the shock. The languid state in which I found the eel the morning after it was taken, gave me an opportunity of observing that though I could perceive no shock by touching it on or near the tail; yet applying my finger near the belly, the torporific power was very considerable, notwithstanding the fish was now almost dead. This I repeated several times, as a remark of some consequence in assisting us to determine whether, or how far, the emission of torporific particles depends on the exertion of any muscular force\*; upon which principle Mr. Reaumur accounts for the benumbing power of the Torpedo. I much doubt if the most acute eye can discern any motion in the eel at the time it shocks†. I have been so particular in taking notice of the basket and deal-board, because it has been asserted that the eel shocks only by immediate contact, through metal or very hard wood. This eel is frequently eat by the negroes, and reckoned very delicious. Its common food is shrimps or any small fish.

I have lately made another experiment upon the torporific eel. It was suggested to me by the very great similarity between the effects of a shock from the eel and an electric machine. I held an iron rod between two pieces of glass and touched the eel with it, but could not perceive the least shock. I held the rod in a silk handkerchief with the same effect. I repeated these experiments on two eels with equal success. I think this experiment demonstrates that the electric and torporific particles are the same. I have tried the effects of this fish upon the needle of a compass but perceived no influence. I have not, however,  
done

\* I have not ventured as yet to give any opinion of the strange property by which this fish becomes the conductor of the electric fluid. But that the emission of it depends upon the exertion of muscular force may, I think, be concluded from hence; that, as has already been determined, repeated exertions will exhaust its power to shock for a time, and before it can again exert its influence, a fresh quantity of fire must be collected; nor do I think the experiment I made on the dying eel invalidates this opinion, for to the best of my recollection it ceased to shock some time before its death.

† I am informed the motion is perceptible, though I confess I could not distinguish it.

done with the eel, and hereafter will repeat all the old and make new experiments upon it\*.

This fish raises its head every few minutes above the water to respire.

I have seen negroes take hold of it, at first very cautiously, receiving many light shocks, but presently have grasped it hard and taken it out of the water.

There is a kind of light wood through which the eel cannot shock.

Mrs. Behn, in her Oroonoko, gives a description of this fish, which she calls the numb-eel, and says it is taken in the river Surinam.

From the above experiments, partial as they are, I leave you, sir, to judge how far the torporific and electric fluids are alike.

I am, with the greatest respect and esteem,

Your most humble servant,

South-Carolina, }  
October 8, 1782. }

HENRY COLLINS FLAGG.

## N° XIV.

To DAVID RITTENHOUSE, *Esquire*, from JOHN PAGE, *Esquire*.

Williamsburg, December 4, 1779.

DEAR SIR,

Read May 2d, 1783. **I** HAVE often thought there was a strong resemblance between some of the phenomena of electricity and magnetism, and fancied I saw something like the two electricities in the attraction and repulsion of  
Z the

\* I had not been long in South-America when I made my observations; soon after which, the necessary avocations of my profession, together with that relaxation of the mental powers generally consequent upon the lassitude of body incident to the inhabitants of warm climates, indisposed me to the farther prosecution of experiments I am now mortified at not having made.